

ABSTRACT OF THE DISCLOSURE

An operator control system for controlling the operation of an electric motor driven door or gate operator unit having a speed reducing gear drive mechanism and a brake unit for positive braking of the motor output shaft.

5 A programmable microcontroller is operably connected to a motor drive circuit with interlock relays to energize the operator unit drive motor for rotation in opposite directions. The motor drive circuit is interconnected with a motor watchdog circuit to effect motor shutdown if the

10 microcontroller malfunctions. The motor drive circuit is operably connected to a brake release circuit to prevent motor operation unless the electrically operated brake is energized to release braking of an operator output shaft.

15 The microcontroller receives input signals from manually or radio-controlled door open, close and stop switches and from door position limit switches. The microcontroller is connected to a non-volatile memory for storing door mid-stop time delay values, braking rates, a door position limit overrun signal, a door cycle count, door reversals upon receiving an obstruction detector signal and error codes associated with door operator and control system malfunctions. The door may be operated to provide a down position limit overrun, progressive braking and a mid-stop set position by time based signals. The electrically

20 operated brake may be controlled on a variable duty cycle to provide smooth braking action in both directions of movement of the door.

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